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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,072

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Klaus Voigtlaender

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EXAMINER

WILSON, BRIAN P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,072	Applicant(s) VOIGTLAENDER ET AL.	
	Examiner BRIAN WILSON	Art Unit 4163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8-30-2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 29 recites the broad recitation "condition data of the tire", and the claim also recites "rim condition" which is the narrower statement of the range/limitation. It should also be noted that "tire" and "rim" are usually referring to different parts of the wheel assembly, and thus it would be unclear what the sensor is monitoring.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 16-21, and 24-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Barnett (U.S. Pub 2001/0022551 A1).

Regarding claim 16, Barnett teaches a device for detecting a condition of a tire on a wheel of a vehicle ([0030]); comprising a receiving unit adapted to be provided in a vehicle (**Fig. 1, item 6; note receives data from sensor**); at least one sensor which ascertains condition data of the tire and outputs them to said receiving unit (**Fig. 1, item 4**); an evaluation device (**Fig. 1, items 12, and 16**), said at least one sensor being adapted to be provided in the vehicle (**Fig. 1, items 4, and 10**) and configured to ascertain values representing a distance (**Fig. 2C, item 4**) to at least one target element affixed to the tire ([0045], **note 46a measures from the hub**) and output them to said evaluation device which from that ascertains condition data of the tire (**Fig. 1, items 12, and 16**), wherein said at least one target element includes a first target adapted to be affixed to one side of the tire ([0045], **note 46a measures from the hub**) and a further target which is a rotating reference measurement target on the wheel ([0045], **note 46a measures from tire wall**).

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Regarding claim 17, Barnett teaches the device as defined in claim 16, wherein said further target is a travel surface ([0045], **note 46a measures from tire wall; this is the surface that a vehicle travels on**), and a height of said at least one sensor above the travel surface is ascertained as the distance (**Fig. 2C, item 15**).

Regarding claim 18, Barnett teaches the device as defined in claim 16, wherein said at least one sensor is configured to ascertain speed values of said at least one target element (**Fig. 3, item 302**).

Regarding claim 19, Barnett teaches the device as defined in claim 16, wherein said evaluation unit (**Fig. 1, items 12, and 16**) is configured so that from the values selected from the group consisting of a distance values (**Fig. 3, item 303, [0047]**), speed values (**Fig. 3, item 303, [0047]**), said evaluation unit ascertains variables which are compared with rated values (**Fig. 3, item 305, [0047]**); and further comprising a memory unit which stores the rated values ([0047]; **Fig. 3, item 307**).

Regarding claim 20, Barnett teaches the device as defined in claim 19, wherein said evaluation unit is configured so that it ascertains amplitudes of the distance ([0047]; **note threshold limits**), maximums of which amplitudes are compared with rotated values stored in memory ([0047]; **note history buffer; Fig. 3, item 307**).

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Regarding claim 21, Barnett teaches the device as defined in claim 16, wherein said at least one sensor is adapted to be located in static fashion on a vehicle chassis. **([0008]; note remotely mounted sensor)**

Regarding claim 24, Barnett teaches the device as defined in claim 16, wherein said at least one sensor is a sensor selected from the group consisting of an electromagnetic sensor **([0031]; 46d)**, an optical sensor **([0031], 46e)**, and an acoustic sensor **([0031], 44)**.

Regarding claim 25, Barnett teaches the device as defined in claim 24, wherein said electromagnetic sensor is configured as a radar sensor **([0044]; note microwave oscillator determines distance to sidewall of tire)**

Regarding claim 26, Barnett teaches the device as defined in claim 24, wherein said optical sensor is a sensor selected from the group consisting of a lidar sensor **([0031]; note laser transmitter/detector)** and a picture-taking device **([0031]; 46a)**.

Regarding claim 27, Barnett teaches the device as defined in claim 24, wherein said acoustic sensor is configured as an ultrasound sensor **([0031]; note 44, 44a)**.

Regarding claim 28, Barnett teaches the device as defined in claim 16, wherein said at least one sensor is configured to ascertain the condition data of the tire selected from the group consisting of tire pressure condition **(Fig. 3, item 302)**, tire load condition **(Fig. 3, item 302)**.

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Regarding claim 29, Barnett teaches the device as defined in claim 16, wherein said at least one sensor is configured to ascertain condition data of the tire which is a rim condition ([0008], **note tire pressure**).

Regarding claim 30, Barnett teaches the device as defined in claim 16, wherein said evaluation device is configured so as to make condition data of the tire available to an element selected from the group consisting of a display device of the vehicle. ([0008]; **note dashboard display**)

Regarding claim 31, Barnett teaches the device as defined in claim 16, wherein the device for detecting a condition of a tire on a wheel of a vehicle is configured as a device for detecting a condition of a tire on a wheel of a motor vehicle ([0030]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett (U.S. Pub 2004/0022551 A1) in view of Galan (U.S. Patent 5,274,355).

Regarding claim 22, Barnett teaches the device as defined in claim 16,

Barnett teaches

- wherein said at least one first sensor is adapted to be located on a component ([0008]; **note remotely mounted sensor**)

However, Barnett does not teach

- wherein said at least one first sensor is adapted to be located on a component that is *connected dynamically to a vehicle chassis*.

Galan teaches

- *connected dynamically to a vehicle chassis* (**Fig. 1, items 20, and 22; note that struts are dynamic parts of a vehicle**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Barnett's sensor placement with Galan's placement on the strut, because as the vehicle moves with the deflection of the suspension, a sensor on the lower end of a strut would maintain line of sight with the tire.

Regarding claim 23, Barnett in view of Galan teach the device in claim 22,

Galan further teaches

- wherein said at least one sensor (**Fig. 1, item 20**) is adapted to be located on a strut (**Fig. 1, item 22**) that is connected dynamically to a vehicle chassis (**Fig. 1, item 22; note that struts are dynamic parts of a vehicle**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Barnett's sensor placement with Galan's placement on the strut because as the vehicle moves with the deflection of the suspension, a sensor on the lower end of a strut would maintain line of sight with the tire.

9. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett (U.S. Pub 2004/0022551 A1) in view of MacKness (U.S. Pub 2004/0075022 A1).

Regarding claim 32, Barnett teaches the device as defined in claim 16,
Barnett further teaches

- wherein the device for detecting a condition of a tire on a wheel of a vehicle (**[0030]**)

However, Barnett does not teach

- wherein the device for detecting a condition of a tire on a wheel of a vehicle is configured as a device for detecting a condition of a tire on *a wheel of an aircraft*.

MacKness teaches

- *on a wheel of an aircraft*. (**[Abstract]**)

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace Barnett's tire pressure monitoring system for a vehicle with MacKness's system for use on an aircraft. This would produce predictable results, and give the pilot useful information before an aircraft is going to take off preventing a possible blowout and saving lives.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hopkins (U.S. Patent 6,498,967) discloses a tire pressure monitoring system for use on motor vehicles or aircraft. Kranz (U.S. Pub 2003/0080862) discloses a remote tire pressure monitoring system. Rea (U.S. Patent 6,300,867) discloses a tire pressure audio warning device that can detect rim leaks. Martin (U.S. Pub 2002/0158756) discloses a tire indicator device mounted on the axle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Wilson whose telephone number is (571)270-5884. The examiner can normally be reached Monday-Thursday from 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on (571)272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. W./

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4163